

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
4 January 2001 (04.01.2001)

PCT

(10) International Publication Number
WO 01/01111 A1

(51) International Patent Classification⁷: **G01N 21/17,**
A61B 5/00 [GB/GB]; 9 Keswick Avenue, Merton Park, London SW19
3JE (GB).

(21) International Application Number: **PCT/GB00/02491** (74) Agent: **ELKINGTON AND FIFE**; Prospect House, 8
Pembroke Road, Sevenoaks, Kent TN13 1XR (GB).

(22) International Filing Date: 23 June 2000 (23.06.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
9915082.3 28 June 1999 (28.06.1999) GB

(71) Applicant (for all designated States except US): **UNIVERSITY COLLEGE LONDON** [GB/GB]; Gower Street, London WC1E 6BT (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MILLS, Timothy, Noel** [GB/GB]; Flat 4, 45 Newman Street, London W1P 3PA (GB). **BEARD, Paul** [GB/GB]; 41 Montrose House, Westferry Road, London E14 3SE (GB). **DELPHY, David**

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

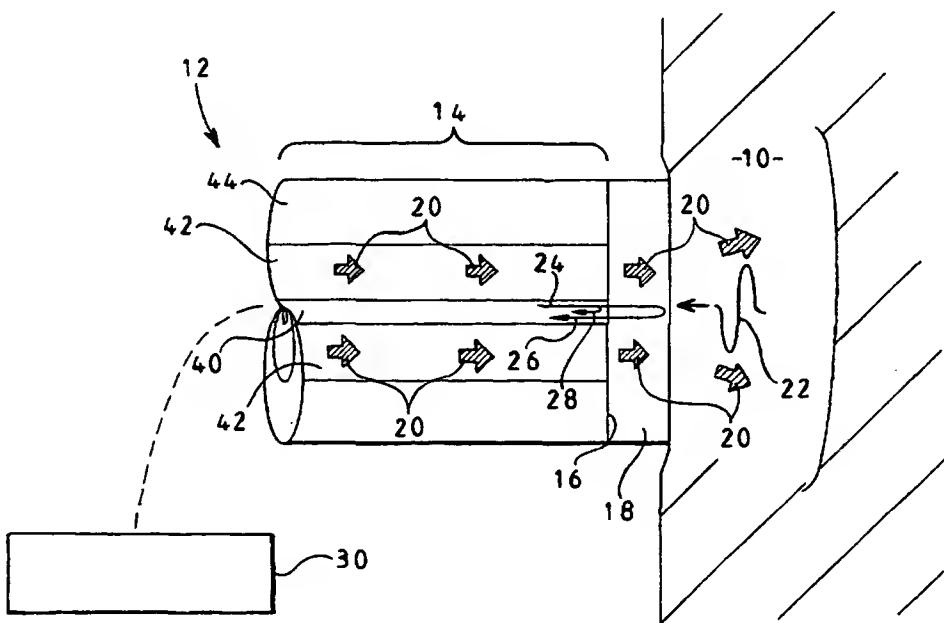
(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— With international search report.

[Continued on next page]

(54) Title: OPTICAL FIBRE PROBE FOR PHOTOACOUSTIC MATERIAL ANALYSIS



WO 01/01111 A1

(57) Abstract: A probe comprises an excitation source and a double-core optical fibre. A pulsed laser signal (20) of the excitation source is supplied to the outer core (42) at one end of the optical fibre. The other end is provided with an interferometer film (18). An excitation signal (22) produced in the sample (10) modulates the thickness of the film (18). This provides an interferometer signal (26, 28) detected from the inner core (40).